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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/671,066	09/26/2003	Matthew Alan Michel	28,476	5865
21839	7590	02/09/2005	EXAMINER	
BURNS DOANE SWECKER & MATHIS L L P POST OFFICE BOX 1404 ALEXANDRIA, VA 22313-1404			HAYES, BRET C	
		ART UNIT		PAPER NUMBER
		3644		

DATE MAILED: 02/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/671,066	MICHEL, MATTHEW ALAN
	<b>Examiner</b>	<b>Art Unit</b>
	Bret C Hayes	3644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 29 October 2004.
- 2a) This action is FINAL.                  2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-6,8,9 and 11-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) 11,12,14 and 37 is/are allowed.
- 6) Claim(s) 1-6,8,9 and 13-36 is/are rejected.
- 7) Claim(s) 11,13,21,22,24,29 and 32 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 11, 13, 21, 22, 24, 29 and 32 are objected to because of the following informalities: Claims 11 and 13, lines 15 and 3, respectively, it has been held that the functional “whereby” statement does not define any structure and accordingly cannot serve to distinguish [*In re Mason*, 114 USPQ 127, 44 CCPA 937 (1957)]; Claims 21 and 22 (2X), line 2, and lines 2 and 4, respectively, “the projectile” should be --each of the projectiles-- as no singular ‘projectile’ has been previously recited; Claim 24, line 1, “are” should be --is--, for subject-verb agreement, since ‘plurality’ is a singular noun; Claim 29, “the two sequential spools” should be --two sequential spools-- or --sequential spools--, as, while ‘a plurality’ can obviously include two, there has been no positive recitation of exactly two; and Claim 32, the recitation that an element is “sufficient” to perform a given function is not a positive limitation but only requires the ability to so perform—it does not constitute a limitation in any patentable sense. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 13, 15 – 17 and 26 – 28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Re – claims 13 and 15 – 17, line 1 of each, “projectile dispenser” should be --projectile dispenser system-- for proper antecedent basis.

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5. Re – claim 26, because of the claim's dependence upon a claim reciting “a collar”, any subsequent references to the collar must be in the singular and cannot broaden the limitation to include a plurality, such as, “a first collar”, “a second collar”, etc. As such the claim has not been further treated on the merits. Examiner suggests revising claim 24 to include the possibility of multiple collars or canceling claim 26 to remedy.

6. Claim 27 recites the limitation "the aggregate" in line 2. There is insufficient antecedent basis for this limitation in the claim.

7. Any unspecified claim is rejected as being dependent upon a rejected base claim.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1, 3, 18, 19, 21 and 31 – 36 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent No. 5,094,170 to Raynaud et al. (*Raynaud*).

10. Re – claim 1, Raynaud discloses the invention as claimed including a projectile dispenser, Fig. 5D, for example, having at least one expandable bellows 38, at least one spool 84 for holding elongated projectiles 86 in unidirectional parallel relation, and at least one collar 36; means for releasing, set forth at col. 5, line 37 (5:37), the at least one spool 84 in predetermined time relation from the dispenser, and means for releasing 88 the elongated projectiles 86 from the at least one spool 84 in specific sequence following separation from the dispenser.

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11. Re – claim 3, Raynaud discloses in an airborne projectile dispenser, the improvement comprising: at least one spool 84 for supporting a plurality of projectiles 86 in substantially parallel relation, a collar 36 retaining the projectiles 86 within the at least one spool 84, and means for opening, 5:37, the collar 36 to release the projectiles 86, the means for opening, 5:37, including means for timing the period of release of said collar.

12. Re – claim 18, Raynaud discloses the claimed invention including a system for dispensing projectiles from a munition comprising a plurality of spools 76, each spool 76 arranged in sequential relationship along a linear axis, note arrows in Fig. 5B, for example, and each spool including a plurality of projectiles 72, and a bellows\* 78 connected between at least two of the spools 76, the bellows 78 expandable along the linear axis from collapsed, compacted to elongated, extended states. \*While Raynaud references the item 78 as an ejection system, since one of the desirable ejection systems disclosed includes bellows, as at 38, it would be considered to be an inherent element in the system 78 as shown in Fig. 5B, for example.

13. Re – claim 19, Raynaud further discloses at least one controller\* to initiate ejection of the projectiles 72 from the plurality of spools 76; see 5:23–32. While Raynaud does not explicitly state ‘a controller’, Raynaud discloses no less than two stages of ejection, which would inherently include some kind of controller in order to accomplish.

14. Re – claim 21, Raynaud further discloses heads of projectiles arranged in a common orientation, see Fig. 1, for example.

15. Re – claims 31 – 33, Raynaud discloses the claimed invention as applied above. Further, there is nothing in Raynaud to lead one of ordinary skill in the art to believe that sequential spools *are not* separated by such a distance.

16. Re – claim 34, Raynaud discloses the claimed invention as applied above including in the elongated extended state of the bellows, sequential spools are separated from the bellows and from each other, see Figs. 5B - 5D, for example.

17. Re – claim 35, Raynaud discloses an ejection system to release the plurality of spools and bellows from the munition as applied above.

18. Re – claim 36, Raynaud discloses the claimed invention as applied above including the system comprising means to remove 30 an outer portion of the munition to expose the plurality of spools and the bellows.

***Claim Rejections - 35 USC § 103***

19. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

20. Claims 2, 4, 6, 8, 9, 24, 25 and 27 – 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Raynaud.

21. Re – claim 2, Raynaud discloses the claimed invention except for the expandable bellows 38 having an axis of expansion along a principal longitudinal axis. It would have been obvious to one having ordinary skill in the art at the time the invention was made to orient the expandable bellows to have an axis of expansion along a principal longitudinal axis, absent any showing to the contrary, as a matter of obvious design choice, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japiske*, 86 USPQ 70.

In support of the above assertion of obvious design choice, examiner submits US Patent No. 4,829,905 to Lew et al., showing the claimed axis of expansion along a principal longitudinal axis in the same field of endeavor for the purpose of separating dummy warhead shells from a real warhead shell being known in the art since no later than 16 MAY 89, for Applicant's perusal.

22. Re – claim 4, Raynaud discloses the claimed invention including a strap 36 surrounding armaments 10 and means for breaking 38 the strap 36 except for timed means for cutting. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include timed means for cutting, since it was known in the art that timing and delay functions are necessary for accurate deployment.

23. Re – claim 6, Raynaud discloses the claimed invention except for the means for cutting including a capacitively powered circuit board. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the means for cutting include a capacitively powered circuit board, since capacitively powered circuits were known in the art to be used with cutting means.

24. Re – claim 8, Raynaud discloses the claimed invention as applied above, except for timed controller for controlled expansion of the bellows. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include timing means for controlling, since it was known in the art that timing and delay functions are necessary for accurate deployment. Examiner takes Official Notice of the assertion regarding the controller.

25. Re – claim 9, Raynaud discloses the claimed invention as applied above, except for means for timing the ignition of the gas-powered means. It would have been obvious to one

having ordinary skill in the art at the time the invention was made to include means for timing the ignition, since it was known in the art that timing and delay functions are necessary for accurate deployment.

26. Re – claim 24, Raynaud discloses the claimed invention including a collar 36 except for the collar having a curved outer surface. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the collar have a curved outer surface, since there is no invention in merely changing the shape or form of an article without changing its function except in a design patent. *Eskimo Pie Corp. v. Levous et al.*, 3 USPQ 23. In this case, the shape of the outer surface of the collar appears to have no effect on the function of the collar.

27. Re – claim 25, Raynaud discloses the claimed invention except for a varying thickness of subsequent collars. It would have been obvious to one having ordinary skill in the art at the time the invention was made to vary the thickness of subsequent collars, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

28. Re – claim 27, Raynaud discloses the claimed invention including an entirety of the inner surfaces forming a geometric shape, except for the collar including a plurality of portions. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the collar include a plurality of portions, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

29. Re – claim 28, Raynaud discloses a plurality of geometric shapes, see Figs. 5C and 5D, for example, except for the shapes being one of a hexagon and an octagon. It would have been

obvious to one having ordinary skill in the art at the time the invention was made to select these shapes, since there is no invention in merely changing the shape or form of an article without changing its function except in a design patent. *Eskimo Pie Corp. v. Levous et al.*, 3 USPQ 23.

30. Re – claims 29 and 30, Raynaud discloses the claimed invention except for the bellows being releasably connected to sequential spools. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the bellows be releasably connected to sequential spools, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japiske*, 86 USPQ 70.

***Allowable Subject Matter***

31. Claims 11, 12, 14 and 37 are allowed.

32. Claims 13 and 15 – 17 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims. Examiner apologizes for the oversight of the 112, 2<sup>nd</sup> paragraph rejection of claim 13 above undiscovered until this office action.

33. Claims 5, 20, 22 and 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

34. Applicant's arguments filed 29 OCT 04 have been fully considered but they are not persuasive.

35. In response to the argument that Raynaud does not disclose "specific sequence following separation from said dispenser" because "Raynaud discloses first ejecting a bound group of

armaments, which can be the same or simultaneously ejected, followed by the simultaneously ejecting of all the armaments in the group.”, examiner asserts that this is a specific sequence, in the sense of the term meaning arrangement, array, etc.

36. In response to the argument that Raynaud does not disclose an “expandable bellows positioned between at least some of said spools for serially separating said spools” because of interfering structure of the supports, examiner disagrees. Simply because there is no direct contact of the bellows to the spools, due to the support structure, does not make the bellows any less ‘positioned between at least some of said spools’ as claimed. The bellows are still positioned between spools.

37. In response to the argument that motor means as disclosed by Raynaud would interfere with any separation. Applicant goes to great lengths to argue that the result would be the armaments releasing into the motor means 3 of Raynaud and no proposed solution to this alleged problem is suggested in the proposed modification, examiner contends that such is not claimed. Rather, an expandable bellows having an axis of expansion along a principal axis, *inter alia*, and at least one spool being in contact with an end surface of the bellows, which examiner asserts, is indeed disclosed by the reference.

### ***Conclusion***

38. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication should be directed to Bret Hayes at telephone number (703) 306 – 0553. The examiner can normally be reached Monday through Friday from 5:30 am to 3:00 pm, Eastern Standard Time.

If attempts to contact the examiner by telephone are unsuccessful, the examiner's supervisor, Teri Luu, can be reached at (703) 305 – 7421. The fax number is (703) 872 – 9306.

bh

2/7/05



TERI PHAM LUU  
SUPERVISORY  
PRIMARY EXAMINER

1600 GROUP

Organization Bid Room

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